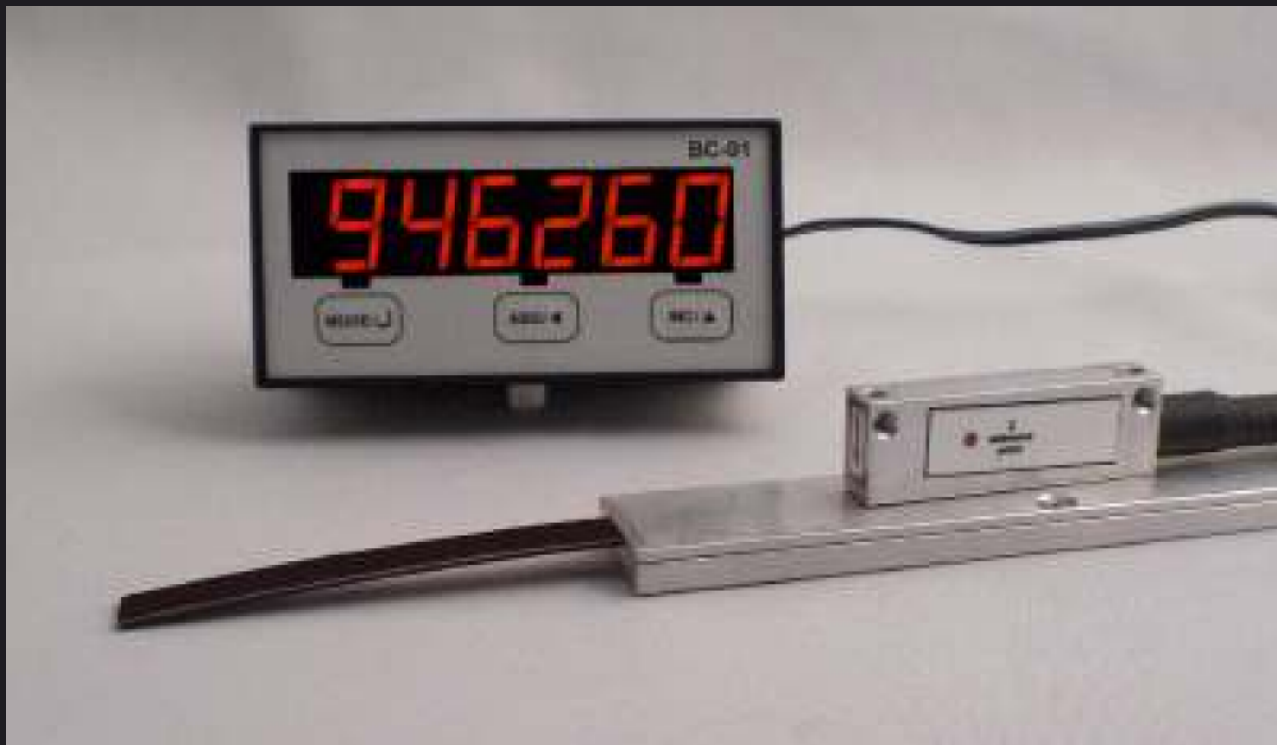


digital- readout- systems



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programmable digital readout units
and angle measurements

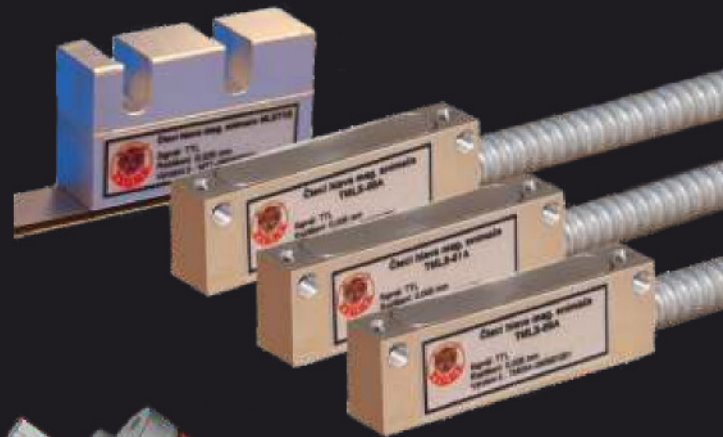
digital readout

- BC-01
- BC-A01
- BC 2001 / 3001
- Pearl V2
- Pearl V3

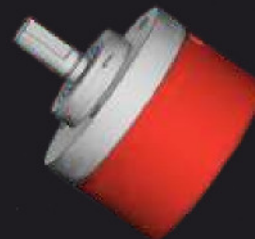


magnetic linear encoders

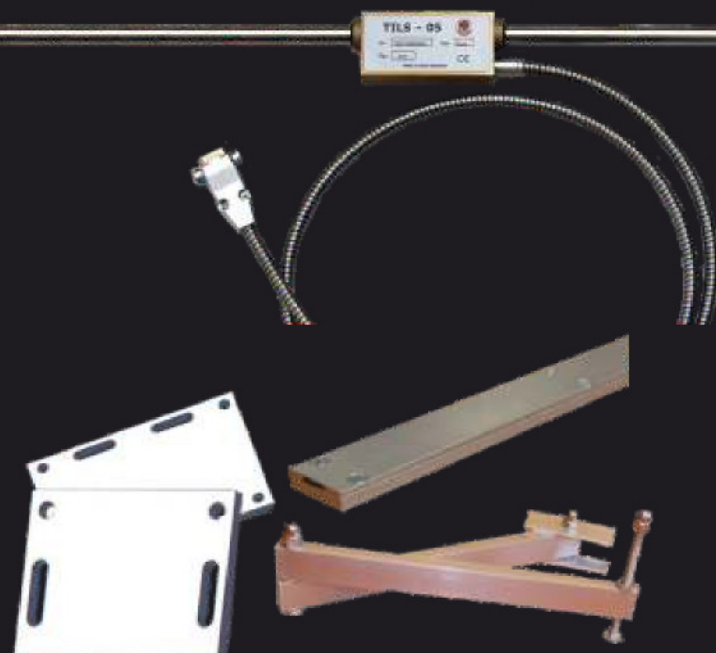
- TMLS25
- TMLS-05A-05
- TMLS-05A-02
- TMLS-01A-02
- magnetic tapes



- rotary encoders
- TRME -1 (1024 PPR)
- TRME -2 (4096 PPR)
- inductive linear scale



- arm holders for the digital readouts
- aluminium profiles
- assembling profiles
for reading heads
- connecting cable



BC-01 - single axis digital readout

- 6 digits, bright LED display
- dimensions 96mm x 48mm x 45mm (digits height 14 mm)
- measuring direction setting
- absolute / relative measurement option
- mm/inch measurement option
- zero setting at any position, value preset
- linear / rotary encoder resolution in the range 0.001 ~ 0.999mm. It is also possible to use the rotary encoders with this digital readout
- decimal position setting, mirroring setting, halving function
- possibility to disable any button
- linearity error compensation
- reference point / customers reference point setting
- power down memory
- relay control output

BC-01 € 73,75



optional accessories:

- external digital / analogue input
- slowing down relay outputs setting

BC-A01 - single axis digital readout for angle measurements

- 6 digits, bright LED display
- dimensions 96mm x 48mm x 45mm (digits height 14mm)
- measuring direction setting
- absolute / relative option
- decimal system angle display degree-minutes-seconds option(max. 5 s)
- mirroring setting, halving function
- new rotary encoder testing function
- rotary encoder resolution coefficient setting
- rotary encoder correction factor
- reference point / customers reference point setting
- possibility to disable any button
- power down memory
- relay control output

BC-A01 € 90,00



optional accessories:

- external digital / analogue input
- slowing down relay outputs setting

BC-2001 / BC-3001 2 / 3 axis digital readout

- 6 digits, bright LED display
- dimensions 96mm x 48mm x 45mm (digits height 14 mm)
- measuring direction setting
- absolute / relative measurement option
- mm/inch measurement option
- zero setting at any position, value preset
- linear / rotary encoder resolution in the range 0.001 ~ 0.999mm. It is also possible to use the rotary encoders with this digital readout
- decimal position setting, mirroring setting, halving function
- possibility to disable any button
- linearity error compensation
- reference point / customers reference point setting
- power down memory
- relay control output



BC-3001 187,38 €



BC-2001 149,88 €

optional accessories:

- external digital / analogue input
- slowing down relay operation

Digital readouts Pearl V2

- 2 / 3 axes digital readout
- digital readout resolution setting
- digital readout display resolution setting
- mm/inch measurement conversion
- radius / diameter option
- absolute / relative option
- halving function, centre of circle
- reference point setting
- zero setting, presettable value
- calculator
- bolt hole calculation (100 holes)
- power down memory
- tool offset
- linear error compensation
- programming block (100)
- includes the arm holder



Pearl V2, 2 axes: EUR 248,75
 Pearl V2, 3 axes: EUR 273,75

Digital readouts Pearl V3

Provides all the functions of the Pearl V2 plus the following additional features:

- any axis can be configured as linear / angular axis
- high counting frequency up to 7.5 MHz
- multi datums – total 6 datums
- settable display refresh time
- infra red remote keyboard
- /circle /arc /straight line / inclined line /frames
- /matrix hole patterns /mirroring / scaling
- linear and non-linear compensation
- 0.1/0.01 / 0.005 / 0.001 / 0.005 mm selectable resolution
- measuring range -99999.000 to 99999.000
- taper turning
- polar coordinates
- zero proximity warning
- job clock / feed rate display
- XY, YZ, XZ interpolation
- programming blocks
- RS232 data output
- includes the arm holder



V3, 2 Achsen EUR 294,00
 V3, 3 Achsen EUR 299,00
 V3, 4 Achsen EUR 324,90
 6 relays EUR 124,00
 Relay output (for 6 relays) EUR 49,90
 Touch probe input EUR 63,00
 Constant surface speed EUR 148,75

optional accessories:

- touch probe input
- relay output (for 6 relays)
- 6 relays
- constant surface speed

PC-Interface

The device PC interface PC-01-XX is used to connect the incremental linear encoders providing TTL phase shifted A/B signals with the PC (or PLC).

- PC interface for 1 / 2 / 3 / 4 axes
- data output RS232 or through USB interface
- counting speed: 100 kHz / each axe
- PC interface is supplied including the power adapter, data cable for RS-232, basic software and manual including the description of the communication protocol

Firmware functions:

- power down memory
- zero setting by special command
- hold function by special command
- reference point detection

Basic software functions:

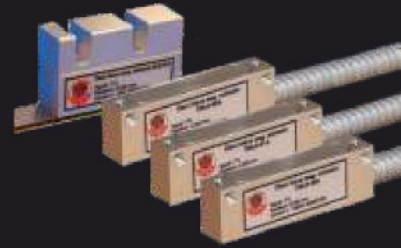
- displays the position of each axes
- axes resetting
- resolution setting, counting direction
- possibility to save the position to the table and exports the data to CSV file

PC interface 1 axe € 79.95
 PC interface 2 axis € 109.95
 PC interface 3 axis € 139.95
 PC interface 4 axis € 169.95
 RS232/USB interface € 11.95

Magnetic linear scales

Main features

- resolution to 0.001mm
- high tolerance to vibrations
- very simple assembly
- protection class IP67
- non contact wear free system
- also suitable for long measuring lengths



Magnetic linear encoders TMLS-25B-02

Magnetic linear encoders with resolution 25 microns. The air-gap between the magnetic tape and reading head is 1 mm maximum, the cable can be also supplied with stainless steel conduit (supplied to order).

The advantages of this system are price, reliability, high resistance against mechanical damage, perfect protection against dust, oil, etc., very small size and the ability to measure very long distances.

The reading head is used with the magnetic tape MT-02.
dimensions: 38mm x 22mm x 11mm



TMLS-25B-02 56,25 €

Magnetic linear encoders TMLS-05A-05

The air-gap between the magnetic tape and reading head is 2.5 mm maximum, the cable is supplied, as standard, with stainless steel conduit. The advantages of this system are price, reliability, high resistance against mechanical damage, perfect protection against dust, oil, etc., very small size and the possibility to measure very long distances.

Reading head resolution 5 μ m

The reading head is used with the magnetic tape MT-05.
dimensions: 53mm x 17mm x 10mm



TMLS-05A-05 98,75 €

Magnetic linear encoders TMLS-05A-02

The air-gap between the magnetic tape and reading head is 1 mm maximum, the cable is supplied, as standard, with stainless steel conduit. The advantages of this system are price, higher accuracy compared with the reading heads TMLS-05A-05, reliability, high resistance against mechanical damage, perfect protection against dust, oil, etc., very small size and the possibility to measure very long distances.

Reading head, resolution 5 μ m

The reading head is used with the magnetic tape MT-02.
dimensions: 53mm x 17mm x 10mm



TMLS-05A-05 98,75 €

Magnetic linear encoders TMLS-01A-02

reading heads resolution 1 micron!

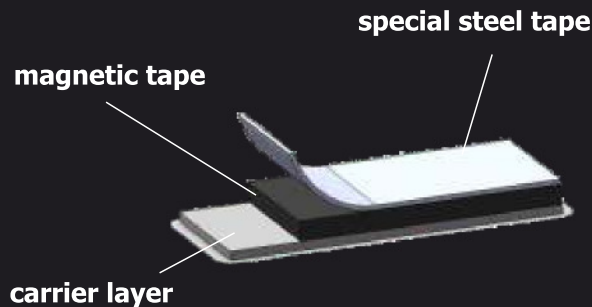
The air-gap between the magnetic tape and reading head is 1mm maximum, the cable is supplied as standard with stainless steel conduit. The advantages of this system are price, higher accuracy compared with the reading heads TMLS-05A-05, reliability, high resistance against mechanical damage, perfect protection against dust, oil, etc., very small size and the possibility to measure very long distances. Reading head resolution 1 µm.

The reading head is used with the magnetic tape MT-02.
dimensions: 53mm x 17mm x 10mm



TMLS-01A-02 122,50 €

MT magnetic tapes for the reading heads TMLS



Magnetic tape is the basic system used by the magnetic linear encoder to measure position. The magnetic tape has adhesive side (width 10mm, thickness 1.4mm, max. length 25m) and a protective stainless strip with adhesive tape (width 10mm, thickness 0.2mm) is available. Advantages of this system are very simple installation (the surface must be straight and smooth) and very good price. Note that extreme conditions of dust or coolant may cause the tape to lift from the surface

Magnetic tape

MT02-x € 4,39 / 100 mm
MT05-x € 5,50 / 100 mm

summary of incremental length measuring systems

reading head	sleeve	magnetic tape	resolution	air-gap	accuracy	Vmax	reference cable *
TMLS-25B-02	-	MT02-04/MT02-02	25µm	1mm	0,050mm	60m/min	- no sleeving
TMLS-05A-05	black	MT05-04/MT05-02	5µm	2,5mm	0,040mm	60m/min	ext. magnet 3m sleeving
TMLS-05A-02	blue	MT02-04/MT02-02	5µm	1mm	0,020mm	60m/min	ext. magnet 3m sleeving
TMLS-01A-02	green	MT02-04/MT02-02	1µm	1mm	0,015mm	20m/min	ext. magnet 3m sleeving

magnetic tape	pole distance	accuracy	imprint	price
MT02-02	2mm	+/- 0,02mm	A20 2000	€ 4,39 / 100mm
MT02-04	2mm	+/- 0,04mm	2000	€ 4,39 / 100mm
MT05-02	5mm	+/- 0,02mm	A20 5000	€ 5,50 / 100mm
MT05-04	5mm	+/- 0,04mm	5000	€ 5,50 / 100mm

* more available on request
length of unit = measuring range + 60mm
non contact, wear free, dustproof, waterproof, Ip67
3m special steel sleeving

rotary encoders

Rotary encoders can be used for angle or linear movement measurement.

technical specification:

resolution: 1024 / 4096 PPR

rotary encoder type: magnetic

output signal: TTL

power input: 5 V

protection class: IP65

case: aluminium

encoder diameter: 50mm

encoder height: 60mm (without shaft)

encoder height: 80mm (with shaft)

spindel diameter: 8mm

TRME-1

magnetic rotary encoder, resolution 1024 ppr

94,88€

TRME-2

magnetic rotary encoder, resolution 4096 ppr

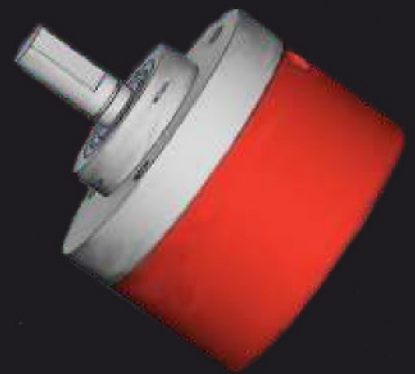
112,38€

Connection cable for the rotary encoder –price/m

7,50€

special interface for the rotary encoder modification

59,50€



BC-F01 - digital rotation / movement speed display

- actual / preset rotation speed display
- actual / preset axes movement speed display
- display of the difference between the actual and preset rotation speed / axes movement speed
- setting of the pulses / revolution (1 ~ 240)
- encoder resolution setting (0.001 ~ 1.240mm)
- possibility to disable any button
- presetting of the rotation speed
- presetting of the axes movement speed

BC-F01 € 95,00



Optional accessories:

- relay output
- dimensions: 96mm x 46mm x 45mm

TILS inductive linear scales

TILS inductive linear scales are robust, dust and water proof, with the ability to achieve high resolution of 1 µm. Easy assembly and attractively priced. TILS sensors are inductive devices. A coil system detects changes in the reluctance of the rod created by an internal ferromagnetic spiral. The sensor does not contain permanent magnets.

technical specification:

Meas. length: standard 2m
max. 5m with special frame

Resolution: standard resolutions 0.001mm and 0.005 mm
on request from 0.001mm to 0.5mm

Accuracy: 0.01 + 0.01xL(m) mm

Max. meas. speed: 1 m/s, special high speed version: 7 m/s

IP protection: IP67

TILS reading head, resolution 1 µm	€ 181,25
TILS reading head, resolution 5 µm	€ 181,25
measuring bar for TILS:	€ 13,11 / 100 mm
fixed holder for the measuring bar	€ 4,94 / pc
adjustable holder	€ 12,38 / pc
extension cable:	
without stainless steel conduit	€ 7,50 / m
with stainless steel conduit	€ 11,25 / m



up to 5 meters

BC-C01 digital counter

BC-C01 € 95,00

The digital counters are used to count the produced parts on the presses for example.

Functions of the digital counter:

- saving upto 64 different products counts in the memory
- counting in positive or negative direction
- stop the counting of the pulses (for example by machine setting)
- deducting the faulty parts
- setting number of pulses equivalent to 1 product
- setting the number of parts to reach machine maintenance alarm.
- digital counter is supplied including the magnetic sensor
- dimensions: 96mm x 48mm x 45mm

optional accessories:

- relay output



Arm holders for the digital readouts BC-01, BC-A01



BC-A1

€ 12,44



BC-A2
with joint

€ 19,00

Aluminium profiles - type AP, for the magnetic tapes MT

Special aluminium profiles can be supplied to provide a high level of protection for the magnetic tapes. The aluminium profiles have the advantage of preventing the magnetic tapes from becoming unstuck due to its smooth surface. Aluminium profile AP-01 is suitable for the reading heads TMLS-05A-05, eventually together with reading heads TMLS-05A-02 or TMLS-01A-02. The advantage of this solution is the smooth surface of this aluminium profile. Available by the metre.

AP-01

€ 19,88



Assembly profiles for the linear encoders TMLS05-A and TILS



40mm x 55mm € 2,25



80mm x 55mm € 3,99



80mm x 55mm x 40mm € 6,00

Our prices are net and are always subject to VAT. Missprints and errors may remain in the pricing. All prices are subject to change. Freight and packaging charges and any additional dispatches charges, taxes and fees are collected separately.